at a salary of $2,000 per year for candidates with the doctor's degree, the other at $1,600 a year open to those with a bachelor's degree. The bureau desires candidates from the leading American universities where chemistry is well taught. The training should be the usual thorough one in the preparatory studies such as physics and mathematics, and in general inorganic, analytical and organic chemistry, together with a course in organic preparations. The research work for the doctor's degree may be either in inorganic or organic chemistry.

Candidates who are thoroughly equipped, who are accurate and painstaking in their work, who have the proper technique and capability for individual investigation, will have opportunities for promotion to vacancies occurring in positions above them. The salaries in the division of chemistry range from $1,600 United States currency per year, through intervals of $200 and $250, to $3,000 per year.

The laboratory is fully equipped with all modern apparatus and with a complete scientific library.

All information in regard to these positions can be obtained from the Bureau of Insular Affairs, Washington, D. C.

Two positions in the biological laboratory for men thoroughly trained in bacteriology and pathology are vacant in the Bureau of Science, Manila. One of these is at a salary of $2,500 United States currency per year. and it is desired if possible that the candidates should have had training in the principles and technique of serum preparation and therapy, and it is hoped that the successful one shall acquaint himself with the serum work carried on in the Bureau of Science and become capable of operating the serum section of the biological laboratory. The other position is for an assistant in bacteriology and pathology, and candidates must be capable of doing original work and must have the degree of doctor of medicine.

The opportunity for the study of tropical diseases is unsurpassed, and the candidates, through the diagnostic work in the hospital and in the government prison, will have every opportunity to study a great variety of tropical infections and parasites.

The outlook for promotion is good, as vacancies occur in upper positions in the laboratory. The salaries range from $1,600 to $5,000 United States currency. The bureau publishes the medical section of the *Philippine Journal of Science,* so that all research work can be promptly edited.

All information in regard to the positions can be furnished from the Bureau of Insular Affairs, Washington, D. C.

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## *SCIENTIFIC NOTES AND NEWS*

At the meeting of the National Academy of Science held in Washington on April 23, members were elected as follows: Edwin Brant Frost, director of the Yerkes Observatory, University of Chicago; William E. Storey, professor of mathematics, Clark University; Edward F. Nichols, professor of physics, Columbia University; W. F. Hillebrand, chemist in the U. S. Geological Survey; Wm. B. Clark, professor of geology, the Johns Hopkins University; Whitman Cross, geologist, U. S. Geological Survey; E. G. Conklin, professor of zoology, University of Pennsylvania, professor-elect of biology, Princeton University; Theobald Smith, professor of comparative pathology, Harvard Medical School; Simon Flexner, director of the Laboratories of the Rockefeller Institute for Medical Research. Foreign associates were elected as follows: Svante A. Arrhenius, director of the Division of Physical Chemistry of the Nobel Institute of the Academy of Sciences, Stockholm; Joseph Larmor, Lucasian Professor of Mathematics at Cambridge University; Ivan Petrovic Pavlov, Imperial Institute for Experimental Medicine, St. Petersburg; Hugo Ritter van Seeliger, professor of astronomy in the University of Munich, and Th. Barrois, professor of parasitology in the University of Lille.

At a meeting of the council of the Boston Society of Natural History, held on April 15, it was unanimously voted that the Walker grand honorary prize of one thousand dollars be awarded to Dr. Grove Karl Gilbert, of the United States Geological Survey. This

award is made once in five years under the terms of the will of the late William Johnson Walker, a benefactor of the society, "for such scientific investigation or discovery in natural history as the council may think deserving thereof; provided such investigation or discovery shall have first been made known and published in the United States of America." The previous recipients of the Walker grand prize have been: Alexander Agassiz, Joseph Leidy, James Hall, James D. Dana, Samuel H. Scudder and Joel A. Allen.

THE bill providing a pension of $125 monthly each to the widows of Drs. James Carroll and Jesse W. Lazear has passed the senate by a unanimous vote.

PROFESSOR E. A. SCHÄFER, of Edinburgh University, is giving this week the Herter lectures at the Johns Hopkins University, the subject being "The Pituitary Body." On April 23 he lectured on "Internal Secretions" at the George Washington University. The lecture was followed by a smoker given by the Medical Society of the University.

DR. M. P. RAVENEL, professor of bacteriology in the University of Wisconsin, has been appointed director of the State Hygienic Laboratory.

PROFESSOR BASHFORD DEAN, of Columbia University, has been elected a corresponding member of the Paris Museum of Natural History.

THE Right Hon. A. J. Balfour, F.R.S., has been elected a corresponding member of the French Academy of Moral and Political Sciences in succession to Lord Reay, who has been elected an associate.

M. MAURICE HAMY, of the Paris Observatory, succeeds the late Dr. Janssen as a member of the Paris Academy of Sciences.

DR. J. N. LANGLEY, professor of physiology at Cambridge, has been elected a foreign member of the Royal Danish Scientific Society.

THE Back bequest for 1908 has been awarded by the Royal Geographical Society to Lieutenant George Mulock, R. N., on account of the survey work which he did on the National Antarctic Expedition.

PROFESSOR A. L. KROEBER, of the University of California, has returned from an ethnological visit to the Mohave Indians of Arizona and California. His investigations continued previous studies of the mythology, rituals and music of the tribe. A survey of nearly three hundred shellmounds on the northern shores of San Francisco Bay has recently been completed by the department of anthropology of the university.

AT the request of the Smithsonian Institution, the Department of State has appointed Dr. George Grant MacCurdy, of Yale University, a delegate on the part of the United States to the sixteenth International Congress of Americanists, to be held at Vienna, September 9 to 14, 1908.

MR. HARLAN I. SMITH, of the department of anthropology of the American Museum of Natural History, will continue his archeological reconnoissance of Wyoming, begun in 1907. A trip across the northeastern part of the state, possibly reaching western Dakota and southern Montana, is planned for the coming field season. The work is to begin to locate fields for future detailed cooperative explorations in this portion of the country which lies near the center of a very great area, regarding the archeology of which there is scarcely any literature and from which there are very few specimens in museums or elsewhere readily available for study.

THE Swedish government has proposed a grant for a scientific expedition to Spitzbergen this coming summer for geological and geographical research. Professor Gerard de Geer, the rector of the University of Stockholm, will be the leader of the expedition.

DR. CHARLES R. VAN HISE, president of the University of Wisconsin, will give the address to the graduates of the Michigan College of Mines on May 1.

THE Hon. James Bryce, British ambassador to the United States, will give the baccalaureate address to the graduating class of the University of Wisconsin on June 14.

DR. EDGAR F. SMITH, vice-provost of the University of Pennsylvania and professor of

chemistry, will deliver the annual address at the one hundred and fifty-second commencement on June 17.

By the will of Lord Kelvin, Lady Kelvin is appointed sole executrix, and all his property is bequeathed to her. According to the inventory, the value of the property is over $800,000.

Professor K. G. Abel, head of the industrial chemical laboratory at Stuttgart, died on March 9, at the age of fifty-eight years.

Professor Franz von Leydig, the zoologist, died at Rothenburg on Monday, in his eighty-seventh year. Dr. von Leydig studied at the Universities of Würzburg and Munich, and after holding a professorship at Tübingen for eighteen years, he was appointed to a chair at Bonn University in 1875. He is well known for his researches in comparative histology and anatomy.

The U. S. Civil Service Commission announces an examination on May 14, 1908, to fill a vacancy in the position of physical chemist, in the laboratory of the United States Geological Survey, at $2,160 per annum. No merely scholastic or clerical tests will be given, and competitors will not be assembled for examination. On May 20, there will be an examination for preparator of fossils in the Geological Survey, at a salary of $25 a month.

Prince Roland Bonaparte has given the Paris Academy of Sciences 100,000 francs for scientific research.

An expedition is being equipped, under the auspices of the Russian ministry of marine, with the object of discovering a northeast passage between the Atlantic and Pacific Oceans.

The thirteenth general meeting of the American Electro-Chemical Society is being held this week in Albany, N. Y.

The Bridgeport Medical Association has joined the Bridgeport Scientific and Historical Society this season in a series of nine popular lectures, which have been well received.

The Lake Laboratory maintained by the Ohio State University announces the usual program for the coming summer, including courses in general zoology and botany, entomology, ornithology, experimental zoology, comparative anatomy, ecology, embryology, invertebrate morphology and ichthyology; also opportunities for research work and accommodations for investigators as in previous years. The staff will include beside the director, Professor E. L. Rice, of Ohio Wesleyan University, Professor Lynds Jones, of Oberlin College; Professor Charles Brookover, of Buchtel College; Professor M. E. Stickney, of Denison University, and W. B. Herms, at present fellow in zoology at Harvard University. The opportunities offered are excellent for fresh water, and special attention is given to the aquatic life of the locality. Opportunities for research work in this line are very favorable. Independent investigators are given the use of tables free of charge, but are expected to furnish their own microscopes and other apparatus. The locality is an excellent one for summer work, the laboratory being situated on the point separating Sandusky Bay and Lake Erie, with its frontage on a fine beach. For circulars or detailed information letters may be addressed to the director, Professor Herbert Osborn, Ohio State University, Columbus, Ohio.

The spring lectures to be delivered in the lecture hall of the museum building of the New York Botanical Garden, Bronx Park, on Saturday afternoons, at four o'clock, are as follows:

May 2—"A Botanical Expedition to Jamaica," by Dr. Arthur Hollick.

May 9—"Early-flowering Trees and Shrubs," by Dr. N. L. Britton.

May 16—"Plant Life of the Sea," by Dr. M. A. Howe.

May 23—"Ornamental Shrubs: their Selection and Arrangement," by Mr. George V. Nash.

May 30—"Plants that Feed on Insects," by Dr. C. Stuart Gager.

June 6—"Adulterants in Foods and Drugs and their Detection," by Dr. H. H. Rusby.

From the annual report of the Nantucket Maria Mitchell Association we learn that a fire-proof observatory is in process of con-

struction on the memorial grounds on the Island of Nantucket, a few feet from the house (the birthplace of Maria Mitchell) which the association has owned and cared for since 1902, having brought together there certain scientific collections, as well as books and other material formerly the property of Professor Mitchell. Her five-inch telescope (Alvan Clark, maker), donated to the association, is in the hands of Alvan Clark & Sons Corporation, Cambridge, Mass.; they are providing a new mount and will themselves place it in the memorial observatory in good order when the building is ready to receive it, about the first of June.

WE learn from the *Electrical World* that the Niagara Scenic Commission has reported to the Secretary of War that the Niagara, Lockport and Ontario Power Company should be made to restore the beauty of the river bank at the point where its transmission cables cross the Niagara gorge. The point is about four miles from the falls, and the trees and shrubs were cut, broken and injured by the work necessary in the erection of the towers and lines. The scar left on the face of the cliff is not so bad on the New York as on the Canadian side, where the scenic commission has no authority, but the commissioners of Victoria Park may cause the restoration of the bank on that side.

THE central committee of the International Congress on Tuberculosis has, as reported in the *Journal* of the American Medical Association, announced the offer of prizes of $1,000, besides gold and silver medals, each prize to be accompanied by diplomas or certificates of award, for each of the following: (1) For the best evidence of effective work in the prevention or relief of tuberculosis by any voluntary association since the last International Congress, in 1905. (2) For the best exhibit of an existing sanatorium for the treatment of curable cases of tuberculosis among the working classes. (3) For the best exhibit of a furnished house, for a family or group of families of the working class, designed in the interest of the crusade against tuberculosis. (4) For the best exhibit of a dispensary or kindred institution for the treatment of the tuberculous poor. (5) For the best exhibit of a hospital for the treatment of advanced pulmonary tuberculosis. Other prizes offered are following: (1) The Hodgkins Fund Prize of $1,500 is offered by the Smithsonian Institution for the best treatise that may be submitted on "The Relation of Atmospheric Air to Tuberculosis." (2) A gold medal and two silver medals for the best exhibits sent in by any states of the United States, illustrating effective organization for the restriction of tuberculosis. (3) A gold medal and two silver medals for the best exhibits sent in by any state or country (the United States excluded), illustrating effective organization for the restriction of tuberculosis. (4) A gold medal and two silver medals for each of the following exhibits: (*a*) For the best contribution to the pathologic exhibit. (*b*) For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any state of the United States. (*c*) For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any state or country (the United States excluded). (*d*) For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any municipality in the world. (*e*) For the society engaged in the crusade against tuberculosis having the largest membership in relation to population. (*f*) For the plans which have been proved best for raising money for the crusade against tuberculosis. (*g*) For the best exhibit of a passenger railway car in the interest of the crusade against tuberculosis. (*h*) For the best plans for employment of arrested cases of tuberculosis. (5) Prizes of two gold medals and three silver medals for the best exhibit of a workshop or factory in the interest of the crusade against tuberculosis. (6) Prizes for educational leaflets: A prize of $100, a gold medal, and two silver medals in each class, for the best educational leaflet submitted in each of the seven classes defined below: (*a*) for adults generally (not to exceed 1,000 words). (*b*) For teachers (not to exceed 2,000 words). (*c*) For mothers (not to exceed 1,000 words). (*d*) For indoor

workers (not to exceed 1,000 words). (*e*) For dairy farmers (not to exceed 1,000 words). (*f*) For school children in grammar school grades (not to exceed 500 words). (*g*) Pictorial booklet for school children in primary grades and for the nursery. Dr. Charles J. Hatfield, Philadelphia, is the chairman of the committee, and Dr. Thomas G. Ashton, Philadelphia, is the secretary.

The Friday evening lecture at the Royal Institution on March 27 was given by the Hon. R. J. Strutt, whose subject was "Radioactive Change in the Earth." Lord Rayleigh was in the chair. According to the report in the London *Times*, Mr. Strutt remarked that the mineral pitch-blende, the source of radium and other radioactive materials, was in England only found in Cornwall, in veins in the granite and slate. The question arose, How did it get there? The answer he proposed to adopt was that it was derived from the surrounding granite which refined examination showed to contain radium to the extent of one part in a million million. Minute though this proportion was, the total quantity of radium contained at this rate in the external crust of the earth, to a depth of 40 or 50 miles, was more than sufficient to account for the internal heat of the earth. Of the constituents of granite zircon was found to contain quite a large quantity of radium, and in microphotographs of granite discolorations could often be perceived round a zircon crystal. Radium being present in granite, it was natural to expect the presence of helium also; and in fact that gas could be found if looked for with sufficient care. It could also be found in other minerals, the radioactivity of which was not very conspicuous, and he showed a sparking tube filled with helium which had been obtained from about 2 pounds of quartz. Radium also was to be found in numbers of other minerals he had examined, and generally in sufficient quantities to explain the amount of helium they contained. One exception he had discovered was beryl, which contained no radium worth mentioning, but a very large quantity of helium. After discussing a possible explanation of this exception, the lecturer concluded by saying that as the production of helium was a question of time, the quantity found in rocks of different geological strata might provide us with a means of estimating how much time had lapsed since their deposition.

## *UNIVERSITY AND EDUCATIONAL NEWS*

Mr. Henry Wilde, D.C.L., F.R.S., already a liberal benefactor of Oxford University, has given £4,000 to found a Lectureship in natural and comparative religion.

Mrs. Gordon and Miss Peters have given £4,000 to University College, Dundee, for the erection of a laboratory of electrical engineering, in memory of their late brother, Lord Dean of Guild Peters.

An agreement has been reached in the matter of affiliation of Cooper Medical College with Stanford University. The study of medicine must be pursued in San Francisco and the trusts left by Dr. Levi C. Lane are to be fulfilled.

The regents of the University of Wisconsin at their meeting on April 22 considered the question as to whether the efficiency of instruction might be increased by providing separate classes in subjects generally neglected by men and by women, respectively; but as the matter was one of general educational policy, the regents deferred action until the faculty has an opportunity to consider the question and to report the results of its investigation to the board. A committee of nine professors in the college of letters and science, with Dean E. A. Birge as chairman, is now considering the matter, but owing to the complexity of the subject will probably not be able to report for some time.

At the University of Wisconsin Professor Carl C. Thomas, now head of the department of marine engineering of Cornell University, has been chosen to the professorship of steam engineering made vacant by the death of Storm Bull.

Professor Fred'k F. Jones, dean of the College of Engineering and Mechanical Arts in the University of Minnesota, has been elected dean of the academic faculty of Yale University. Professor Jones graduated from Yale College in 1884 and has been connected with the University of Minnesota since 1885.